

Museum of Natural History); and female (Figs. 3, 4), Ecuador, Napo, Cosanga, 2100 m, 27.v.1976, N. R. Venedictoff (private collection of J. M. Cadiou). Forewing lengths: holotype male, 37 mm; females, 33 mm and 44 mm.

The female of *Protoleuron rhodogaster* collected near Cosanga, Ecuador, is similar to the holotype male in coloration and wing maculation, but the pinkish crimson areas on the wings are considerably brighter. The antennae of this female were bright reddish coral initially and darkened slightly with age. In addition, the ventral body is overscaled much more heavily with reddish coral. The shape of the lateral wing margin is variable among the three specimens, but the marginal dentation is less distinct in the females.

Despite the variation in wing shape, wing maculation, and coloration of the ventral surface, this species is distinct and cannot be mistaken for any other neotropical spingid. The unexpected time of capture (1900 h) may indicate an early flight time that might account for the infrequent collection of *Protoleuron rhodogaster*. We encourage other collectors to be more observant and adaptable in their field collecting schedules.

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THREE NOMINAL GENERA OF CRAMBIDAE OMITTED FROM "THE GENERIC NAMES OF MOTHS OF THE WORLD, VOLUME 5, PYRALOIDEA"

Additional key words: Pyraustinae, Nymphulinae, *Arthromastix*, *Nothomastix*, *Microdracon*.

Warren (1890) formally described 19 new genera of Pyraloidea, and these have found their places in the literature of the group. However, within the descriptions of two of these genera he published three additional generic names that have been overlooked almost totally. These are *Arthromastix* Warren, *Nothomastix* Warren, and *Microdracon* Warren.

Arthromastix and *Nothomastix* were proposed in the diagnosis of *Pardomima* Warren (1890:478). According to Warren (1890), *Pardomima* is "Distinguished from *Arthromastix lauralis* (*Salbia lauralis* Guen.) and *Nothomastix chromalis* (*Botys chromalis* Wlk.), with which it otherwise agrees, by the simple male antennae and untufted legs." Though a common character is given to distinguish the two genera from *Pardomima*, this in itself does not qualify as a description or diagnosis as it does not distinguish them from each other. However, one previously published species is included in each (*Salbia lauralis* "A.

Guenée" [see Postscript below] for *Arthromastix* and *Botys chromalis* Walker for *Nothomastix*). This qualifies as an "indication" under Article 12(b)(5) of the Third Edition (1965) of the *International Code of Zoological Nomenclature*, and makes the names available, fixing the respective type species by monotypy. Fletcher and Nye (1984) omitted these names, though Martin (1955) cited them in his revision of African species of *Pardomima*. Both genera are valid and belong to the subfamily Pyraustinae and tribe Spilomelini. *Arthromastix* is Neotropical and contains only the type species, which was placed by Hampson (1899:655) in *Pilocrocis* Lederer, with its synonym *Ceratoclasia verecundalis* Berg, 1874. The latter is a **new combination** with *Arthromastix*. *Nothomastix*, on the other hand, is Indo-Australian. In addition to the type species, the following nominal species belong to *Nothomastix*: *Sylepta obliquifascialis* Hampson, 1896; *Notarcha pyranthes* Meyrick, 1894; *Conogethes sisyroptila* Meyrick, 1933 (according to Shaffer, *in litt.*, a synonym of *N. chromalis*, **new synonymy**); *Sylepta klossi* Rothschild, 1915; and *Botys pronaxalis* Walker, 1859 (= *Pardomima acutalis* Hampson, 1893). Partly following previous authors, Klima (1939) placed these additional species in *Syllepte* Hübner, 1823 (as *Sylepta* Hübner [1825]), except for *C. sisyroptila*, which he transferred to *Dichrocrocis* Lederer. All of them form **new combinations** in *Nothomastix*.

The third genus, *Microdracon*, belonging to the subfamily Nymphulinae [**new subfamily placement**], presents a somewhat different case. Referring to his new genus *Opisthedeicta*, Warren (1890) wrote, "This genus is akin to the first division (A) of Snellen's *Oligostigma*, cf. Tijd. v. Ent. xix 1876, p. 189, for which I have proposed the generic term *Microdracon*. *Opisthedeicta*, however, is characterized by a peculiar formation . . . [etc.]" Hence, Warren (1890) (a) gave characters to differentiate *Microdracon* from *Opisthedeicta*; (b) gave "a bibliographic reference to a previously published description or definition," i.e., that given by Snellen (1876) for his Division A of *Oligostigma* Guenée; and (c) by implication included in *Microdracon* the two species placed by Snellen in that division, viz., *O. bilinealis* Snellen, 1876, from the Punjab, and *O. unilinealis* Snellen, 1876, from Java. Though these are not cited individually in Warren's paper, Snellen's tabulation is clear and unambiguous, and thus the two species are in Warren's paper "clearly referred to [*Microdracon*] by bibliographic reference." Therefore, though the diagnosis from the previously undescribed *Opisthedeicta* might be considered circular, the generic name is available by indication under both Article 12(b)(1) and Article 12(b)(5) of the International Code. From the two originally included species, I hereby designate *Oligostigma bilinealis* Snellen, 1876, as type species of *Microdracon* Warren, 1890 [**new designation**]. This will make *Microdracon* a subjective synonym of *Parapoynx* Hübner, [1865] 1816 [**new synonymy**], according to the classification of Yoshiyasu (1985, 1987), with which I agree.

Postscript. M. Shaffer (*in litt.*) notes, "One small problem needs bearing in mind about the validation of *Arthromastix*. Warren in 1890 incorrectly attributed the species *lauralis* to Guenée, the correct author being Walker. Martin in 1955 attributed the correct author to *lauralis*. As there is only one *Salbia lauralis*, we can therefore justify the assumption that Warren was referring to the same species, otherwise it could be argued that as there is no such species as *Salbia lauralis* Guenée, we cannot use the Article 12(b)(5) to indicate a species that does not exist." The reference for the original description of *Salbia lauralis* is Walker (1859). I agree that Warren clearly intended to designate Walker's species, and that his citation of Guenée as author was an inadvertent error. Under Article 67(f) of the International Code, Warren's designation of the type species is valid, even though as subsequent author he attributed its name "to an author or date other than that denoting its first establishment."

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PALATABILITY OF SEVEN BUTTERFLY SPECIES (NYMPHALIDAE) TO TWO TYRANT FLYCATCHERS IN BRAZIL

Additional key words: color patterns, Tyrannidae, foraging behavior, predators.

Palatability of butterflies to predators that hunt visually generally is related to patterns of coloration. Thus unpalatable species tend to have brightly colored wings that advertise to predators their distasteful properties, whereas palatable ones tend to be cryptic (Fisher 1930). In spite of recent investigations (Chai 1986), we estimate that only about 30 of the 3000 described species of Nymphalidae have been tested for palatability. Most previous studies focused on the palatability of temperate species to captive animals (almost always to birds and lizards). Few field data on the interactions between butterflies and predators have been reported (e.g., Brower 1984).

In this paper we investigate the palatability of free flying individuals of *Callicore astarte astarte* Cramer, *Catacore kolyma connectens* (Talbot), *Diaethria clymena clymena* (Cramer), *Pyrrhogyra naearea arge* Gosse, *Marpesia norica* (Hewitson), *Marpesia chiron* (Fabricius), and *Temenis laothoe* (Cramer) (all Nymphalidae: Nymphaliinae) to wild individuals of two tyrant flycatchers, *Hirundinea ferruginea* Sclater and *Tyrannus melancholicus* Vieillot (Tyrannidae). The first three butterfly species exhibit warning coloration patterns (on the upper surface of the wings) when flying, with a predominance of red, black, blue, and yellow; such coloration suggests that they are unpalatable. The other four species (which do not exhibit such colors) were tested as controls.

Field work was conducted in July 1988 in the Serra dos Carajás (5°54'-6°33'S; 49°53'-50°34'W) in the southern portion of the State of Pará, Brazil. Butterflies were caught in lowland forest (Pojuca, <100 m elevation) characterized by *Mimosa* spp., grasses, and small patches of dry forest, and many tyrant flycatchers. Butterflies were released 10 to 30 m upwind of the birds, always near the end of the afternoon when the predators feed (Fitzpatrick 1980). Palatability tests with *H. ferruginea* were conducted using a single pair of birds near their nest site. A combination of different butterfly species was offered